2025 – 2030

Transportation Electrification Strategic Investment Plan

Seattle City Light

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Letter from Dawn Lindell, General Manager and CEO

At Seattle City Light, we are helping drive the groundbreaking shift towards a cleaner, more sustainable transportation future. Transportation is Seattle's leading cause of climate pollution. It accounts for nearly two-thirds of the greenhouse gas emissions in our region. Electrifying transportation is one of the most impactful steps to reach our region's sustainability goals and combat climate change.

The move away from fossil fuels to the electrification of transportation has grown rapidly in recent years and is reshaping the mobility landscape and energy systems. This shift set the stage for City Light's Transportation Electrification Strategic Investment Plan.

Adopted in 2020, the plan works to ensure all our customers can experience the benefits of electric mobility — from residential customers with electric vehicles (EVs) to businesses transitioning to electric fleets to multifamily customers looking to install EV chargers at their properties. We're also partnering with government agencies to electrify public transit, including buses and passenger ferries, and collaborating with the maritime industry to provide shore power for cruise and cargo ships.

This update to the original plan, which was developed with extensive community and industry input, builds on our work to advance the adoption of electric transportation and modernize our electric grid to serve growing electrical loads.

City Light is uniquely positioned to lead in this transition with our renewable energy sources, strong climate commitments, and customers eager to embrace innovation. This strategy guides the next five-year phase of our work to transform our region's mobility future and ensure an equitable transition away from fossil fuels. Electrification also improves the health of our communities and creates jobs.

City Light cannot undertake this journey alone. This work will require close collaboration with customers, community organizations, policymakers, and business leaders. Together, I'm confident we can successfully electrify our transportation sector, make our communities better places to live and work, and preserve our environment for generations to come. Join us in creating a shared energy future!

Dawn Lindell
General Manager and CEO
Seattle City Light

Executive Summary

Seattle City Light is continuing to embark on the transformation of transportation. For over a century, we have been a public power provider; now, we have the honor of serving as a transportation fuel provider for our customers.

Transportation is the largest source of statewide greenhouse gas emissions and air pollution, which cause numerous negative health impacts on our communities. Electrifying transportation systems offers a significant opportunity to address these impacts while providing economic benefits to our region. Today, one in four new vehicle sales in King County are electric.[1] City Light must rise to the occasion to create a clean, renewable, and affordable energy future. We had several accomplishments during our first Transportation Electrification Strategic Investment Plan, including completing over 160 charger installations.

This updated Transportation Electrification Strategic Investment Plan describes City Light's focus areas and priorities as we continue investing in charging infrastructure, the grid, and communities. We are committed to investing in Puget Sound's transportation system to shift towards a cleaner, healthier, and more equitable environment.

INFRASTRUCTURE

City Light infrastructure investments will continue to respond to market forces and customer needs, with a strategic focus on building more charging stations, increasing equitable access to charging, and improving customer experience.

Ensure customers have equitable access to reliable, convenient public charging throughout our service area. **Public Charging**	Provide rebates and technical assistance to households facing at-home charging barriers. **Home Charging**
Support employee charging for small, women-owned, and minority-owned businesses. **Workplace Charging**	Partner with transit providers to plan, design, and fund electrification projects. **Transit**
Provide technical assistance and financial incentives for businesses, nonprofits, and public entities to electrify vehicle fleets. **Commercial Charging**	Coordinate with regional maritime, railroad, and aviation industries to support electrification projects. **Non-Road Vehicles**

[1] *Department of Energy: https://afdc.energy.gov/vehicle-registration*

TRANSPORTATION ELECTRIFICATION ENABLEMENT

As the electric transition accelerates, City Light will prioritize creating a ready and resilient grid and strategies to plan and manage new electric loads. Another important focus area is resourcing the transition that's underway, which will be accomplished through strategies centered on partnership and collaboration.

Raise customer awareness of time-of-use rates and managed charging technologies.

Load Management

Address the challenges of large-scale electrification with improved customer support and industry engagement.

Grid Investments

Pursue external funding for electrification projects and build community awareness of these opportunities.

Funding Resources

Coordinate with legislators, regulators, and franchise cities on transportation electrification policy.

Policy Coordination

Build career pathways and invest in initiatives supporting green jobs and local business opportunity.

Workforce Development

COMMUNITY AND STAKEHOLDERS

City Light will expand our existing commitment to and collaboration with community partners, inviting them to help shape solutions to community-identified transportation electrification priorities. A strategic focus on co-empowerment requires jointly planning a greater number of projects and outreach efforts with community partners, as well as increasing communications and engagement to support community needs.

Strengthen project partnerships with communities and stakeholders through sustained collaboration and accountability, streamlined internal processes, and improved admin support.

Community & Partnerships

Increase communications efforts, especially for overburdened communities and in-person engagements, to build relationships with and address the priorities of communities.

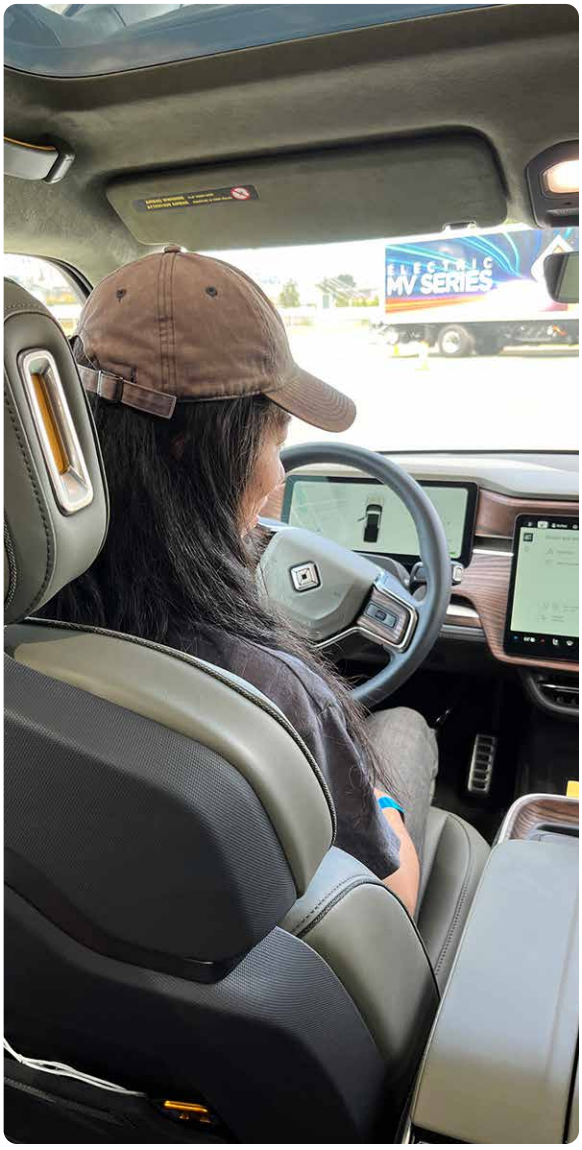
Outreach & Engagement

Context

Transportation is an essential service and a fundamental human need. As affordable housing becomes more distant from community and economic centers, human services and medical care become more diffused, and goods are increasingly procured through e-commerce, transportation is even more of an essential lifeline.[2]

At the same time, fossil fuel-powered transportation is the largest source of greenhouse gas emissions in Washington state and in City Light's service area. These emissions not only contribute to climate change and pollute the environment, but they also harm the health of individuals and the public at large. Diesel and gasoline emissions, which increase as demand for transportation services grow, can cause negative health impacts like asthma, cancer, and stroke.[3]

As a provider of low-carbon transportation fuel, City Light is uniquely positioned to promote electric transportation services that greatly reduce the impacts of climate change while supporting community prosperity and connectivity. Due to our low-carbon electric grid and the reduced tailpipe emissions and growing local economic opportunities associated with the transition from fossil fuels, transportation electrification brings a host of benefits. While the electric transition has direct and indirect benefits to all, overburdened communities and vulnerable populations stand to benefit the most.[4]



Community partner, ECOSS, attending ride and drive at Green Transportation Summit and Expo. Courtesy of ECOSS.

[2] Urban Institute | Upward Mobility Initiative: https://upward-mobility.urban.org/framework/neighborhoods/transportation#

[3] HEI Panel on the Health Effects of Traffic-Related Air Pollution: https://www.healtheffects.org/publication/traffic-related-air-pollution-critical-review-literature-emissions-exposure-and-health

[4] The RCW 70A.02.010 (HEAL Act) includes definitions of "overburdened communities" and "vulnerable populations." These terms are also used in the Clean Energy Transformation Act, the Climate Commitment Act, and other climate change policies and programs.

Transportation electrification covers all services and systems that move people and goods.

On-road

Non-road

Rail

Aviation

Maritime

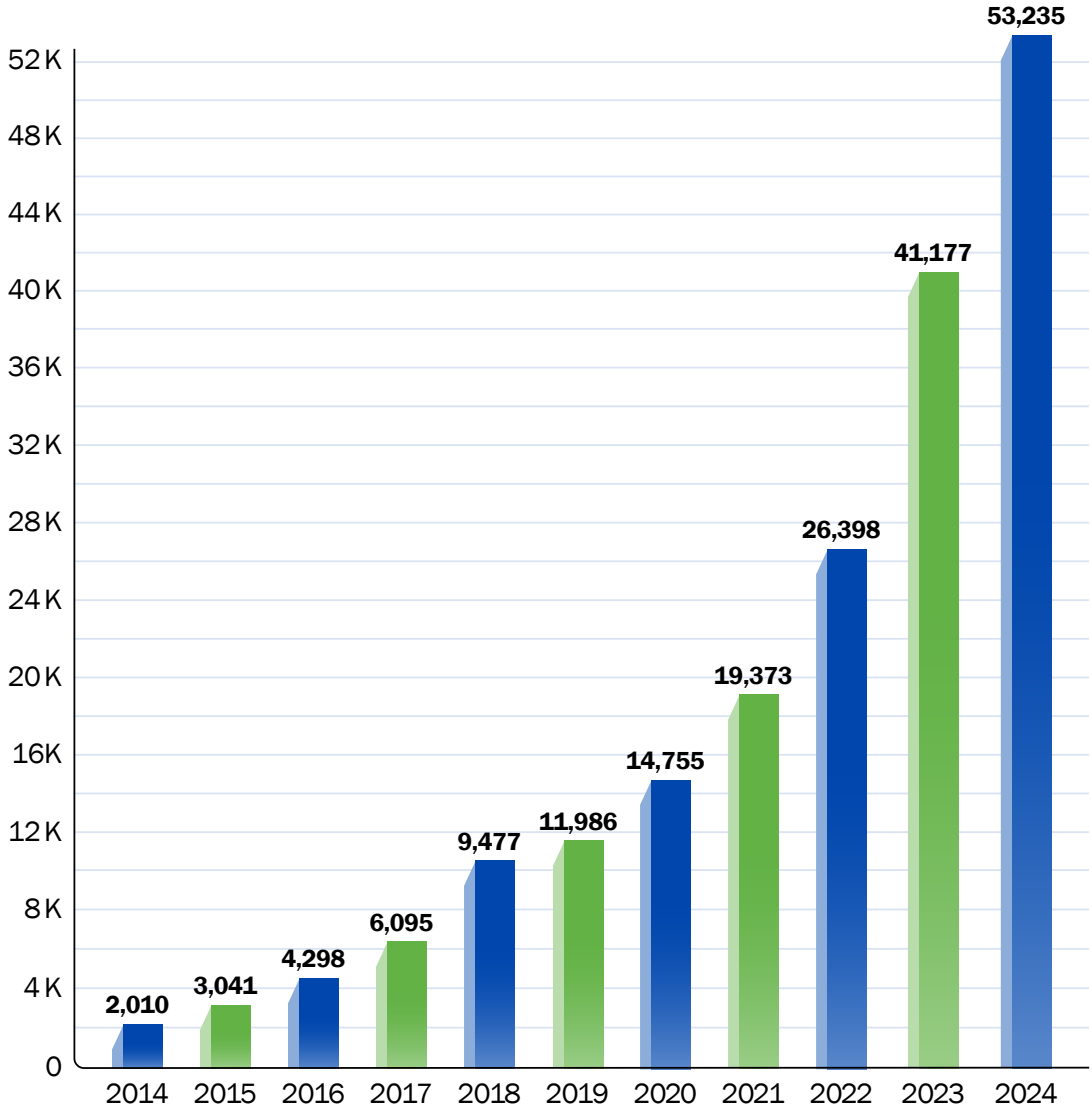
In 2020, Seattle City Council approved and adopted the first Transportation Electrification Strategic Investment Plan. Developed with input and feedback from a diverse set of stakeholders, including community leaders, public organizations, and industry leaders, this plan outlined City Light's transportation electrification strategy and investment approach for 2020 – 2024.

The plan highlighted specific focus areas for City Light investments, programs, policies, partnerships, outcomes, and impacts, and provided a roadmap of activities and key milestones. Now, City Light is bringing together community and stakeholder feedback, lessons learned, industry trends, market developments, and continued research to guide the next phase of our transportation electrification work.

Climate, energy, and transportation policy significantly impact transportation decarbonization requirements and City Light strategy. Federal and state regulations designed to reduce greenhouse gas emissions and address climate change are, in turn, rapidly increasing customer demand for EVs and accelerating our investment in charging infrastructure and grid readiness.[5]

[5] *Clean Air Task Force: https://www.catf.us/2024/08/decarbonizing-us-transportation-progress-opportunities*

ELECTRIC VEHICLES REGISTERED IN CITY LIGHT SERVICE AREA



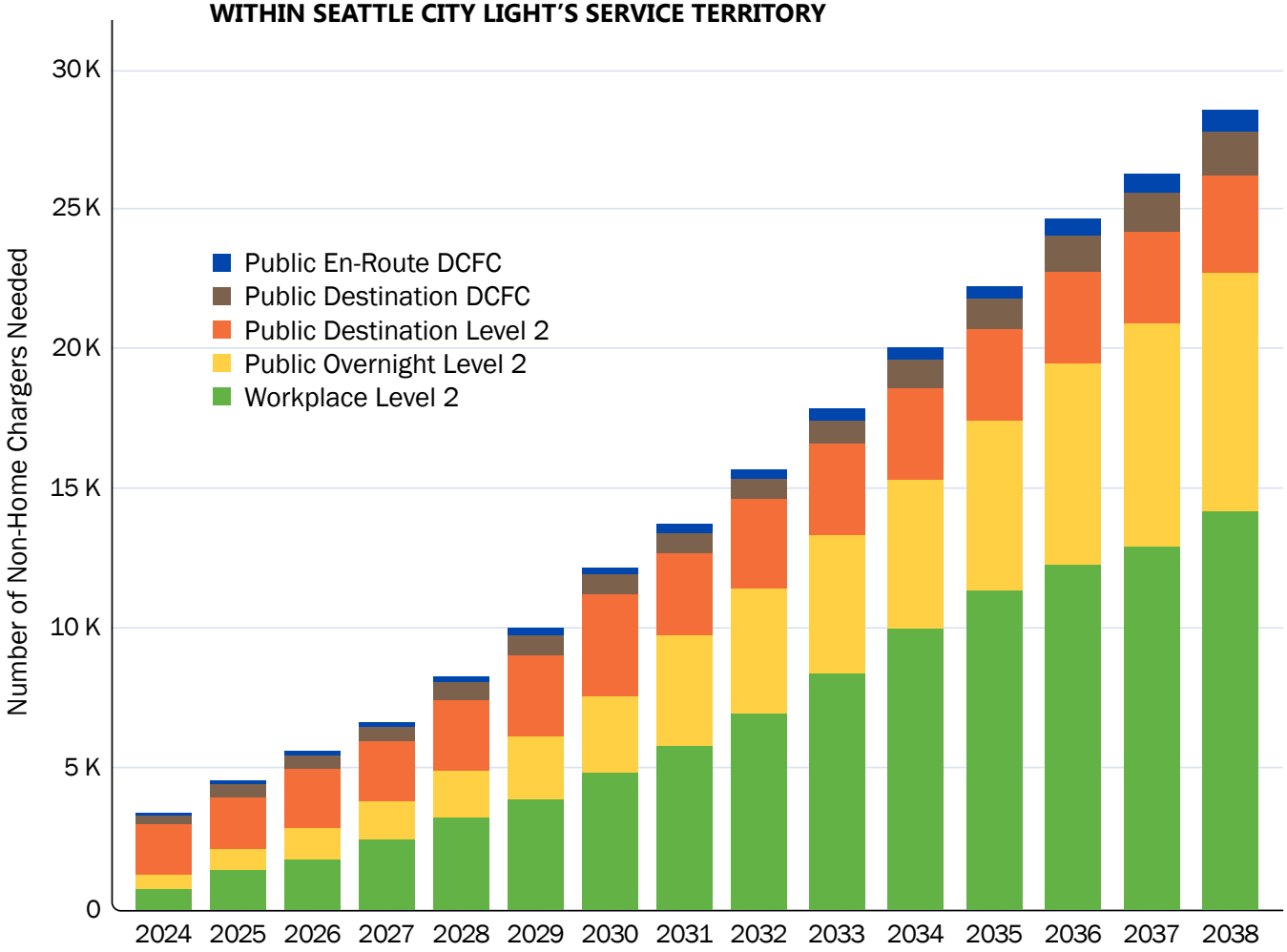
Source: Electric Power Research Institute, EVs in the City Light Service Area by Model Year (Cumulative), displaying Department of Licensing registration data.

Over the past four years, federal and state agencies have made significant investments in decarbonization efforts, including direct consumer incentives for EV adoption and home charger installation with a focus on low-income households.[6] As customers seek reliable and accessible information about available programs and funding, we anticipate they will increasingly turn to City Light as their trusted energy partner for support navigating incentives. There is a growing need for customer education and engagement efforts to ensure our communities are aware of and able to seize upon opportunities from the transformation.

[6] *Database of State Incentives for Renewables & Efficiency: https://programs.dsireusa.org/system/program/wa*

To prepare for growing customer demand, City Light has been working with stakeholders to bring new research to inform our strategy. The International Council on Clean Transportation conducted a charging gap analysis of our service area to determine the number of chargers needed to support projected EV growth over time.[7] The analysis determined our service area will need over 700 fast chargers and over 11,000 Level 2 chargers at public and workplace locations by 2030. This corresponds to a 230% increase from the 223 fast chargers installed as of 2023 and a 620% increase from the 1,549 Level 2 chargers installed as of 2023. In addition, the analysis found our service area needs 150,000 home chargers by 2030.

PROJECTED NEED FOR NON-HOME CHARGERS, BY TYPE, WITHIN SEATTLE CITY LIGHT'S SERVICE TERRITORY



Source: International Council on Clean Transportation, Charging Gap Analysis of Seattle City Light Service Territory, 2024.

[7] *International Council on Clean Transportation, Charging Gap Analysis of Seattle City Light Service Territory, 2024.*

As more people and businesses switch to electric transportation services and systems, City Light faces increased demand for electricity and charging infrastructure. We continue to manage this demand with future-oriented planning on energy sources, required quantities and types, and fluctuating energy demand levels. By predicting how quickly people switch to EVs and how much charging infrastructure our service area needs to support them, we can plan where to build now to enable our customers' future energy choices.

Strategy References

Transporation Electrification includes considerations and inputs from these sources:

- Transportation Electrification Blueprint
- Seattle City Light Strategic Plan
- Grid Modernization Plan and Roadmap
- Seattle City Light Corporate Forecast
- Seattle City Light Integrated Resource Plan
- Climate Change Response Framework
- Executive Order 2022-07: One Seattle Climate Justice Actions to Reduce Emissions from the Transportation Sector
- Seattle Transportation Plan

City Light staff at the annual Duwamish River Festival.

Talking transportation electrification with Cultivate South Park. Courtesy Department of Neighborhoods.

Community Input

As a nonprofit, municipal electric utility, City Light is accountable to the needs of our customers, especially overburdened communities and vulnerable populations.[8] By leading with our value of Equitable Community Connections, our focus is on actively involving the communities we serve in order to better meet their energy needs.

Transportation services and systems are directly related to the health, prosperity, and vitality of regions, cities, communities, and neighborhoods.[9] Fossil-fuel powered transportation systems have a disproportionate and negative impact on overburdened communities, including localized air pollution, water and soil pollution, excess noise, traffic injuries and congestion, and impacts on the built environment.[10]

Community members who carry racial, social, and economic burdens have important knowledge and lived experiences that can help City Light identify top priorities for electric transportation investment. To learn from community wisdom, we partnered with the Seattle Department of Neighborhoods and an external team of engagement experts to conduct outreach throughout our service area over the past year.

The community and stakeholder input we received through this process — as well as ongoing community engagement on electric transportation — has directly informed the investment priorities detailed in this strategy. New feedback reflects a growing awareness of the benefits of transportation electrification and an increasing demand to collaborate on future investments.

City Light staff attending a local event.

[8] For the remainder of this document, "overburdened communities" is used to represent "overburdened communities and vulnerable populations"

[9] American Public Health Association: https://www.apha.org/news-and-media/news-releases/apha-news-releases/2021/community-drivers-of-health-policy-papers

[10] US Environmental Protection Agency: https://www.epa.gov/power-sector/human-health-environmental-impacts-electric-power-sector

In TESIP Phase 2 Outreach during August and September 2024, City Light solicited feedback from the following:

10 Seattle Neighborhoods	**500+** Community Members
90+ Survey Responses	**9+** Place-Based Events at Local Festivals, Houses of Worship, etc.
24 Distinct Language/Cultural Communities Engaged	**9** Engagements with Community-Based Organizations

City Light staff talking about electrification at the Othello Park International Festival.

KEY COMMUNITY FINDINGS

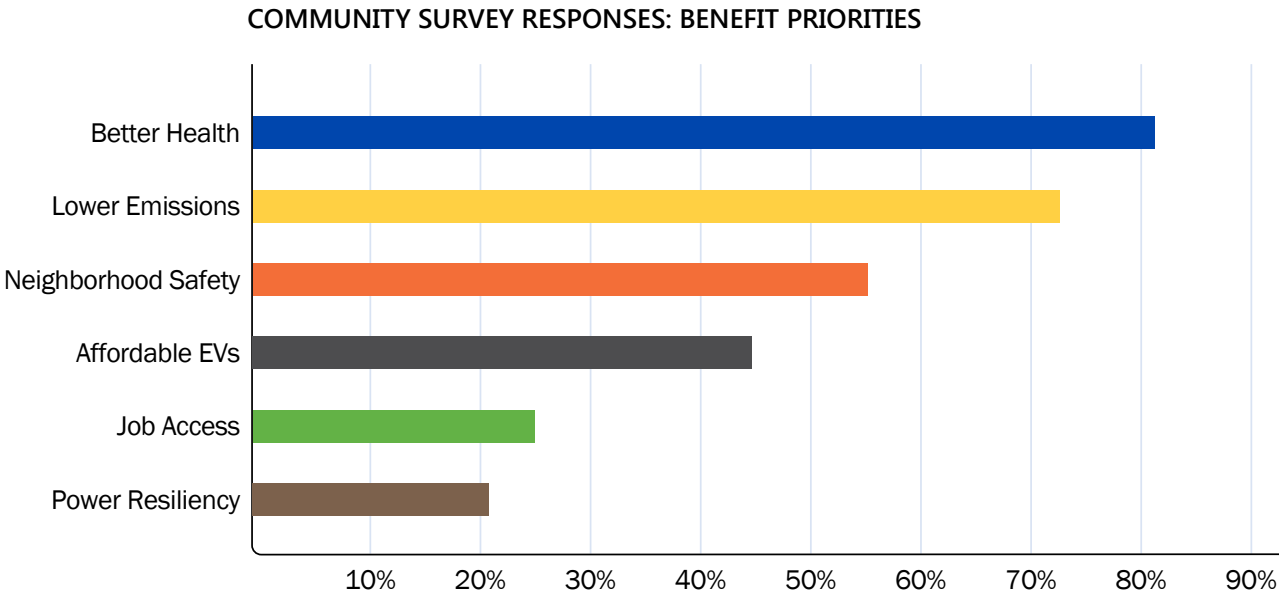
Equitable investment is an essential driver of community-level adoption.
Widespread awareness of community health, climate, and economic inequities can motivate adoption of transportation electrification — but only if communities can see meaningful progress is being made that doesn't exclude or harm the most vulnerable.

Building trust and engagement through education and outreach is a top priority.
Our communities are asking for more robust, regular, and reliable communication, education, and outreach from City Light. This includes in-language and culturally relevant approaches, more hands-on demonstrations, a focus on reliable and actionable information while addressing misinformation, and in-person engagement tailored to the needs of specific communities.

Infrastructure and career pathway investments are valued as an opportunity to strengthen community self-determination.
Reliable EV and electric infrastructure, including plans for maintenance and vandalism deterrence, is a priority for our communities, along with more tailored and targeted economic opportunities. Community-level partnerships are essential to design and deliver programs and projects and to ensure the investment outcomes help create more connected and resilient communities that are resourced for success.

For more detail on specific community feedback and findings, please review the engagement summary report in this document's appendix.

Talking transportation electrification at Back2School Bash hosted by Rainier Beach Action Coalition.



Summary of 76 responses to a transportation electrification community survey. Participants were asked to rank categories of beneficial outcomes from transportation electrification investments from one to six, with one as their top priority and six as their lowest. Results show that the majority of respondents selected "better health" and "lower emissions" as their top priority benefits.

ACCOUNTABILITY AND RE-ENGAGEMENT

Community leaders and stakeholders have continually emphasized the importance of community engagement, collaboration, and buy-in to ensure the success and progress of the electrification transition. City Light is committed to remaining accountable to our communities for transportation electrification investments and working diligently to minimize harm and maximize benefits. Our community accountability plans include:

- Returning to stakeholders and community partners over the time horizon of this plan to document progress as well as challenges and opportunities to shape additional investment, policies, and partnerships.
- Engaging communities and stakeholders regularly to respond directly to existing and new priorities and explain how current work and investments are iterating based on community feedback.
- Investing institutionally in more robust communication and education strategies and activities.
- Continuing to build and maintain community-organization and community-leader partnerships for both engagement and program co-creation purposes.
- Co-creating success metrics and other mechanisms to document progress.

Installation of a City Light EV fast charger.

Investment Strategies

INFRASTRUCTURE

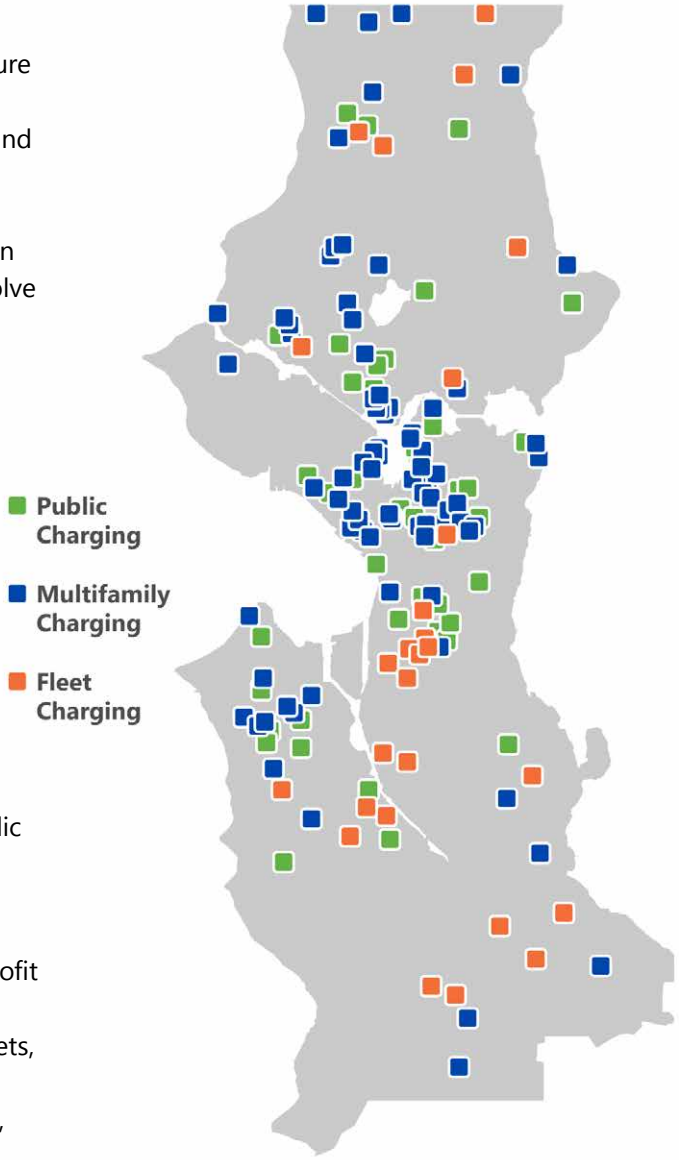
City Light has invested in EV charging infrastructure since 2018, often in partnership with regional agencies, communities and community groups, and private companies. Infrastructure must adapt to community needs, technological advances, and industry trends to support regional transportation electrification. As a result, we will continue to evolve our infrastructure investments to meet market developments and customer needs.

This section provides an overview of the areas we expect to prioritize for investments through 2030 to meet the rapidly growing need for charging as EV adoption continues to increase.

Public Charging

Public charging allows EV drivers to charge their vehicles away from home or work, meeting needs that vary from long road trips to everyday shopping. Other drivers may rely entirely on public charging if they don't have access to chargers at home or work.[11]

While the private sector primarily operates for-profit fast chargers and Level 2 chargers at centralized, high-traffic locations (with most at grocery markets, superstores, and banks), City Light's role is maintaining and expanding access to convenient, dependable public charging — especially in overburdened communities.[12]



City Light's investments in public, multifamily, and fleet chargers since 2020, resulting in 164 projects and 448 EV charger installations.

[12] The U.S. Census Bureau estimates that as of 2023, 56% of Seattle housing units are renter-occupied and 53% of Seattle housing units are multifamily buildings with 5 or more units. Additionally, a 2024 International Council on Clean Transportation GIS analysis estimates that roughly half of the single-family homes in the City Light service area don't have off-street parking. These types of households often face high barriers to getting at-home charging and instead rely on other charging options, like public and workplace charging. United States Census Bureau: https://data.census.gov/table/ACSDP1Y2023.DP04?q=seattle%20median%20rent.

[13] Level 2 chargers provide alternating-current (AC) electricity from the grid to the vehicle's onboard converter, which converts the electricity to direct-current (DC) to charge the battery. Fast chargers convert grid electricity to DC, which is provided directly to the vehicle battery for charging. Level 2 chargers commonly provide between 7.2 and 11.5 kilowatts (kW) and fast chargers commonly provide between 50 and 350 kW.

As of 2024, City Light owns and operates 25 fast chargers and 60 Level 2 chargers for public use throughout our service area. The newly deployed curbside Level 2 chargers, which provide near-home public charging for residents that rely on street parking, have proven especially useful. The locations with the highest utilization are used up to six times per day and dispense enough electricity for over 150,000 miles of travel per year.

PRIORITIES

IMPROVING CUSTOMER EXPERIENCE

City Light will replace initial fast charger investments with newer models that offer faster speeds, more reliable service, and updated technology. In addition, to address increasing vandalism to charger cables (a community-identified priority), we have joined in coalition with other local utilities, charging providers, and fleet operators to develop a coordinated response to the problem. Independently, we are developing a public charging security plan to improve site security and address vulnerabilities.

BUILDING ADDITIONAL CHARGERS

City Light's work to provide near-home public charging, such as curbside Level 2 chargers deployed in partnership with the Seattle Department of Transportation, is one of the most meaningful areas of community benefit. To ensure that residents have access to reliable, dependable charging when they need it, we will focus charging investments on gaps in the charging network. These gaps include providing chargers that:

- Benefit overburdened communities.
- Support electric car share and shared mobility.
- Increase charging opportunities at curbside locations, municipal properties, and public services such as community centers and libraries.

INCORPORATING NEW TECHNOLOGIES AND CUSTOMER PREFERENCES

EV charging continues to evolve with new and improved technologies that mitigate impacts to the electric grid and offer faster charging speeds, including chargers with integrated battery storage and other technologies. City Light will monitor these developments in consultation with industry experts and adjust our programs and offerings to adapt to transforming market and customer preferences while considering early pilots or demonstrations to gain experience with new approaches.

OFFERING FINANCIAL INCENTIVES

The need for increased public charging in the City Light service area cannot be met solely by investments from any single organization. To ensure the entire service area has equitable access to convenient and dependable public charging, we will provide financial incentives and technical assistance to charging providers, prioritizing locations that support highly impacted communities.

City Light being interviewed by The Seattle Times about curbside level 2 chargers.

Home Charging

At-home and near-home charging are the most convenient and affordable ways to charge an EV. This convenience makes them vital pathways for electrification for residents whose commutes cannot reasonably be supported by transit or other forms of personal mobility. Single-family homes with off-street parking and spare electrical capacity are ideal for at-home charging, allowing homeowners to install chargers easily and affordably. However, homes lacking these features face high costs and challenges that disproportionately impact lower-income households. In 2024, City Light began offering instant discounts through our single-family charging program to reduce the upfront cost of installing chargers at single-family homes.

Apartments and condominiums make up 55% of the Seattle housing stock.[14] Owners of multifamily homes often struggle to provide charging for renters because the required upgrades can be expensive. While newer multifamily buildings in Seattle must include EV-ready parking, most were constructed before the rise of EVs and lack the necessary infrastructure. To address these barriers, City Light launched a multifamily charging program in 2023 to provide advisory services and rebates to install chargers for residents at these properties.

[14] Seattle Office of Planning and Community Development: https://www.seattle.gov/opcd/current-projects/housing-choices

PRIORITIES

SUPPORTING HIGH-BARRIER HOUSEHOLDS

City Light can have the greatest impact when focused on helping customers who face economic and social barriers to obtaining at-home charging. We will prioritize offerings that address these barriers, with solutions that may include:

- Targeting outreach, assistance, and educational resources toward affordable housing properties and historically underinvested communities to help customers make informed decisions.
- Offering affordable housing properties and customers on low-to-moderate incomes higher incentives to purchase and install chargers.
- Reducing the cost to the customer for complicated and expensive charger installations and electric capacity upgrades with assistance and incentives.
- Engaging multifamily customers and single-family customers without onsite parking to identify locations for near-home public charging solutions.

OFFERING SOLUTIONS FOR AT-HOME CHARGING THAT SUPPORT OVERALL GRID RESILIENCY

City Light will work to include education on customer solutions that mitigate cumulative impacts on the electric grid and incentives that encourage these solutions, such as managed charging and time-of-use rates.

Commercial Charging

A growing number of companies, nonprofits, and government organizations in the City Light service area are planning to or are already in the process of converting their vehicle fleets to electric alternatives. These commercial vehicles frequently drive longer daily distances than personal vehicles, creating more air, noise, and greenhouse gas pollution in the process. This is especially the case for medium- and heavy-duty trucks like those involved in goods movement.

Replacing commercial vehicles with electric models has a substantial per-vehicle benefit to communities, especially in pollution-burdened neighborhoods near major thoroughfares. However, commercial fleets face unique challenges when transitioning to electric drive due to high upfront costs, limited vehicle availability, and the need for additional electrical capacity for charging infrastructure. A fleet of heavy-duty trucks requires a significant amount of power for charging, estimated at up to 10 megawatts per location for large installations, and providing this power requires diligent planning and close coordination between the utility and the operator.

We introduced our fleet electrification program in 2022, which provides fleet assessments and rebates for commercial vehicle operators interested in vehicle electrification. The program has completed 23 fleet assessments to date, covering over 1,600 vehicles, and has provided rebates to support the installation of 91 chargers.

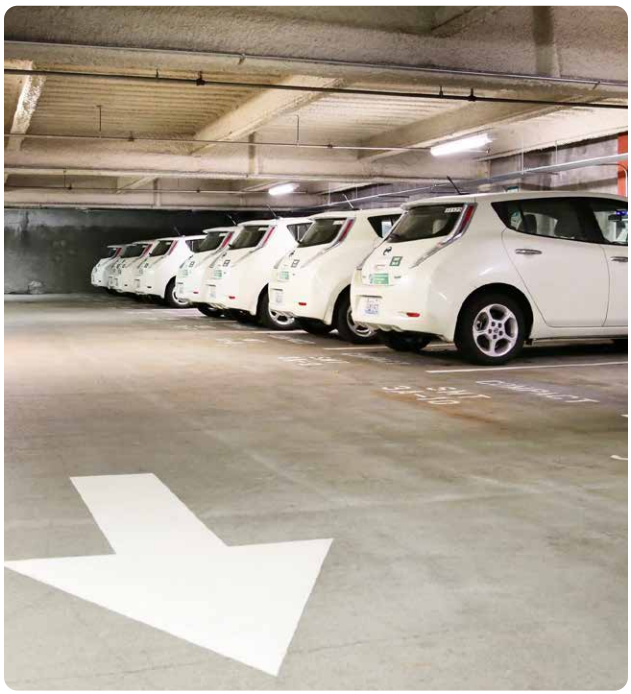
PRIORITIES

OFFERING ASSISTANCE TO COMMERCIAL CUSTOMERS

City Light can facilitate commercial charging projects by ensuring these commercial customers have the knowledge, resources, and technical assistance needed at the start of planning and design stages. We may also prioritize financial assistance for commercial charging projects that provide additional benefits to overburdened communities to ensure limited public resources provide the greatest benefit to the communities experiencing the highest levels of air and noise pollution.

Workplace Charging

An increasing number of workplaces are providing chargers in employee parking areas to support commutes. These can be beneficial for residential customers that have limitations on charging at home. Although workplace chargers are generally the same types used for public charging, they are not considered public because employers provide them explicitly for use by their employees.



Workplace charging faces challenges similar to multifamily housing charging. It is often expensive and difficult to install the infrastructure needed to support chargers in existing parking facilities that were not designed to accommodate them, and existing electrical systems at the workplaces may not have the capacity to support a large number of chargers.

PRIORITIES

OFFERING ASSISTANCE TO EMPLOYERS

City Light will develop a program to support workplaces interested in providing charging for employees, similar to programs available for home and commercial charging. This support will likely include technical assistance to ensure that property managers and owners understand the process, scope, and timeline for installing workplace charging and upgrading their electric service, if needed. This will also include financial incentives for workplace charging projects that otherwise would not be built because of financial barriers, especially for small businesses, women- and minority-owned businesses, and nonprofit organizations.

Transit

The City Light service area is served by a robust public transit system of vanpool, bus, streetcar, light rail, heavy passenger rail, and ferry service operated by King County Metro, Sound Transit, Washington State Ferries, and Kitsap Transit. Some of these services, including the Link Light Rail, Seattle Streetcar, and some King County Metro bus lines, operate entirely on electricity. Most other transit services are powered by diesel fuel and contribute to air and noise pollution in the communities they serve. These transit agencies have plans underway to electrify their services, which will improve public health and increase quality of life, especially for those who rely most on transit, while simultaneously providing lower operating costs.

Other types of transit — including private employer-sponsored bus service, scheduled and chartered motorcoach service, and school buses — are also pursuing electrification plans that provide corresponding benefits and face similar challenges to public transit electrification.

Electrifying transit requires City Light to provide substantial amounts of electricity in densely packed geographic locations and potentially upgrade the existing electric distribution system to meet demand from new electrification projects. We are also working with the Seattle Department of Transportation and transit providers to meet evolving needs for en-route charging stations.

We supported King County Metro's electrification efforts by providing engineering and technical assistance for Metro's first electric bus charging base that was completed in 2022, as well as by temporarily eliminating electricity demand charges through the utility's Commercial Charging Rate Pilot. These efforts lowered fuel costs and improved the financial viability of the project during the first years of operation. We continue to work in partnership with King County Metro to achieve their goal to fully electrify their transit fleet by 2035.

BUILDING PARTNERSHIPS FOR TRANSIT PROJECTS

City Light will continue to provide planning and technical assistance to transit providers for electrification projects and may provide financial incentives to projects that benefit communities that bear a disproportionate burden of air pollution, noise pollution, or traffic from existing transit operations. We will center efforts on community collaboration and feedback to ensure that these projects address community priorities and needs. We will also prioritize partnering with transit providers that are seeking state or federal grants to increase the chances of success and to maximize the impact of investments.

Non-Road Vehicles

City Light's service area is a major hub for non-road transportation vehicles including cargo ships, cruise ships, fishing vessels, ferries, freight rail and aviation, as well as the support vehicles and infrastructure required for operations, loading and unloading freight. Non-road vehicles are usually fueled with fossil fuels like heavy fuel oil, diesel, or kerosene and lack the same emissions control systems required for on-road vehicles. As a result, non-road vehicles contribute significantly to both greenhouse gas emissions and local air pollution.[15] Electric drive is not yet feasible for many of these non-road vehicles because of their heavy weight and long distances traveled. However, these transportation systems can significantly reduce their emissions when the vehicle is stationary by providing grid power — which allows vehicles to

[15] *International Council on Clean Transportation: https://theicct.org/publication/managing-emissions-from-non-road-vehicles*

shut down onboard engines while still operating all electrical systems — and electrifying support vehicles and infrastructure. Short-range non-road vehicles such as ferries and local rail can also use electric drive systems powered by battery systems or overhead wires.

The Washington State Ferries system is converting to an all hybrid-electric fleet by 2040, with the first of these new hybrid-electric ferries operating from Colman Dock in downtown Seattle.[16] We have worked closely with Washington State Ferries on the project and are providing extensive engineering resources and technical assistance for the ferry charging system and the large electric service it requires. We are also providing engineering and technical resources to plan for and design the distribution system required for the Port of Seattle's new shore power system at Pier 66, which will allow cruise ships to power-down their engines while docked and avoid significant greenhouse gas and air pollution.

PRIORITIES

PARTNERING TO SUPPORT ELECTRIC SERVICE PLANNING AND DELIVERY
City Light will continue to work with customers who operate and service the maritime, railroad, and port-related industries to assist with electrification efforts. These projects require close coordination between the utility and the customer because of the large amount of power required.

TRANSPORTATION ELECTRIFICATION ENABLEMENT

As the transition to electrified transportation accelerates, a key component of our strategy is supporting the shift to clean energy. Growing transportation electrification requires City Light to pursue careful planning to build a strong and resilient grid, implement policies and programs to beneficially manage new load, augment and expand existing financial resources, and collaborate with peers and stakeholders to ensure skilled, local workers are available.

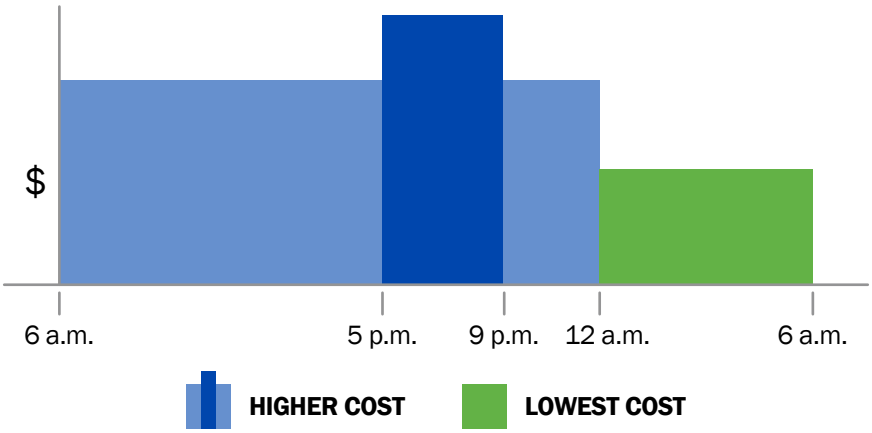
We have a systems-level approach to transportation electrification enablement. The scale of the transition requires thoughtful and collaborative strategies that keep public benefit at the center of our decision-making.

[16] *Washing State Department of Transportation: https://wsdot.wa.gov/construction-planning/major-projects/ferry-system-electrification*

Load Management

Growing transportation electrification requires increasing amounts of available electricity to serve this new load while also better managing the demand for elsectricity in different locations and at different points in time.[17] City Light must determine how to serve new electrical loads while ensuring a reliable electric grid and maintaining affordable rates. To achieve these goals, we need to manage demand and increase overall system resilience by better predicting and planning for improvements that support transportation electrification and by increasing the integration of distributed energy resources.

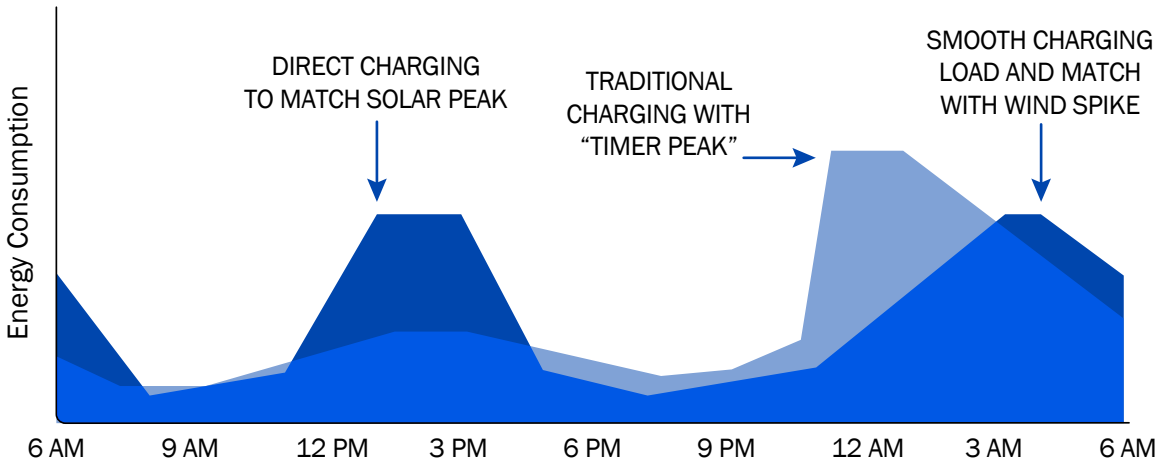
In the near term, two priority areas for City Light's strategy are time-of-use (TOU) rates and managed charging. TOU rates offer customers lower-cost electricity when overall electricity demand is lower, which reduces customer energy bills while shifting charging to times when the grid can better handle it. Managed EV charging can also move electricity demand to optimal times of the day, by slowing or pausing charging during times of high demand or low electricity generation. On a large scale, time-of-use rates and managed charging provide more affordability benefits to customers because they can allow the utility to defer or avoid costly system upgrades and optimize generation resources, thereby keeping rates lower.



This image shows the structure of City Light's adopted TOU rate; providing lower-cost rates at night can encourage EV charging that optimizes grid resources. Time of use rates approved by Seattle City Council in 2022.

[17] *Electric Power Research Institute: https://www.epri.com/research/programs/053122/results/3002023248*

MANAGED CHARGING SCENARIO



Source: BMW of North America, 2016 with edits by Smart Electric Power Alliance, 2017. Note: The light blue area illustrates the impacts of a hypothetical TOU residential charging rate with the lowest rate period beginning at 11 p.m. and with unmanaged EV load. The dark blue area shows how managed charging could distribute charging loads across all hours and align with peaks in renewable energy generation.

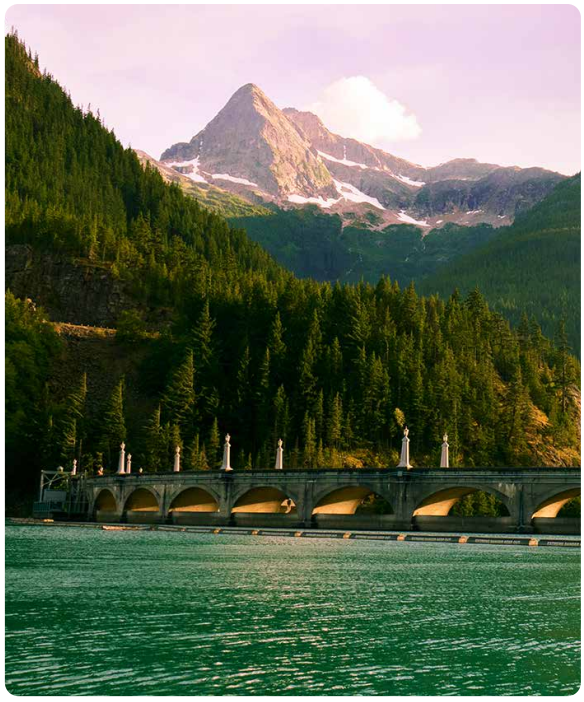
PRIORITIES

IMPLEMENTING OUTREACH AND EDUCATION TO INTRODUCE TOU RATES

City Light will conduct marketing, outreach, and education efforts to ensure all customers are aware of the availability of TOU rates (available on an opt-in basis beginning 2025 and transitioning to an opt-out basis beginning in 2026) and have the knowledge to choose the best rate option for their own use of electricity.

RESEARCHING THE VIABILITY OF ACTIVE MANAGED CHARGING

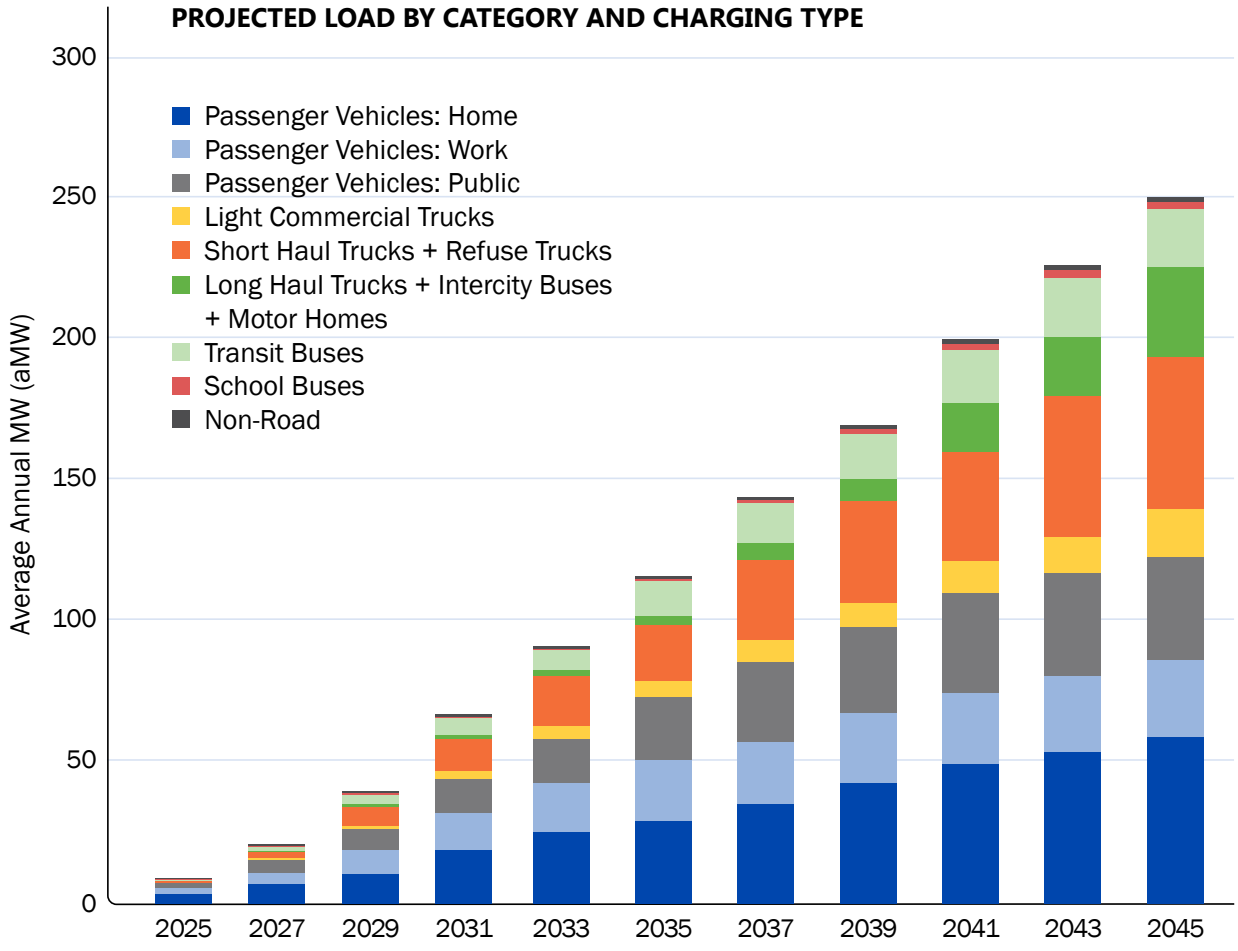
City Light will investigate integrating active managed charging options into public infrastructure. In addition, public outreach, education, engagement, and/or incentives may be part of our work to encourage public adoption of managed charging options as overall EV charging continues to increase.



Grid Investments

Transportation electrification, as well as building and industrial electrification, will require major investments in all aspects of the electrical grid, ranging from regional transmission systems to residential transformers. Current system forecasts anticipate that by 2045, transportation electrification will contribute to 20% of City Light's total electric load; today transportation electrification contributes less than 1%.[18] Like many utilities across the country facing similar external electrification forces, we are already planning, evaluating, piloting, and implementing various distribution, sub-transmission, and transmission infrastructure investments to accommodate new load and integrate it in ways that maximize benefits to customers and the grid.

To the electric grid, EVs operate like other distributed energy resources such as solar or demand response. As "batteries with wheels," they can provide various grid services like energy and capacity resources, voltage regulation, and balancing intermittent load from renewable energy. Because of these attributes, transportation electrification is one of many variables that comprise City Light's comprehensive and robust approach to investing in and preparing for the grid of the future.



Source: Seattle City Light, projected load forecasted by transportation category and charging type, 2024.

[18] *City Light's 2024 system forecast: https://powerlines.seattle.gov/2024/09/04/strategic-plan-update-addresses-challenges-and-opportunities*

INCREASING CUSTOMER PLANNING EFFECTIVENESS THAT SUPPORTS GRID RESILIENCY

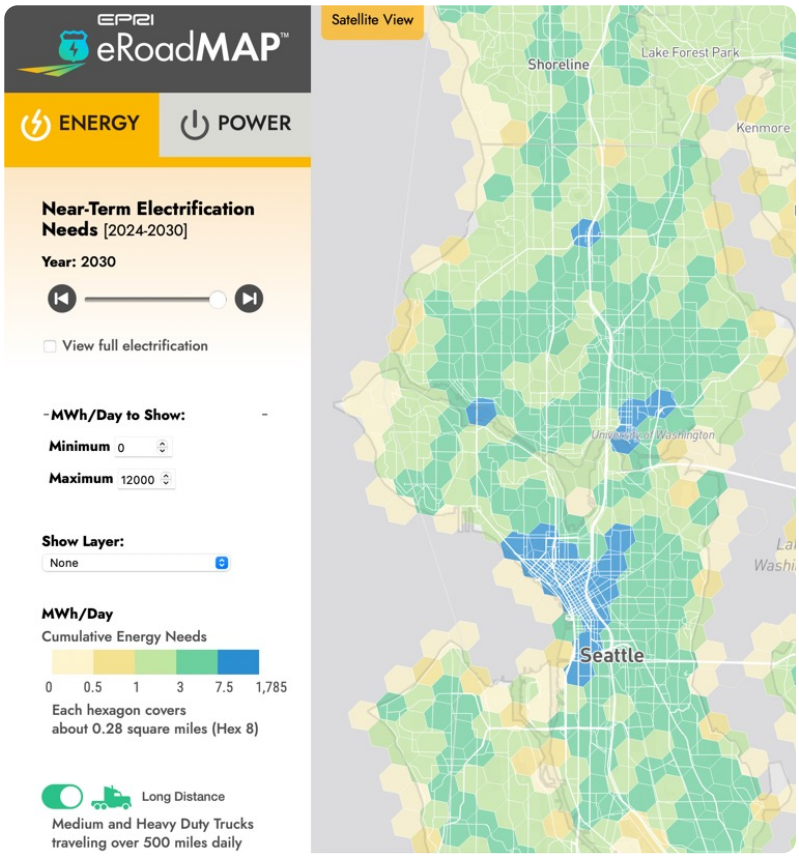
City Light is developing new modeling tools and resources to analyze electric grid capacity and load. These tools will provide a better understanding of what parts of the service area can best support new and upgraded electric services. We may create a modeling tool that will allow customers and developers to quickly determine how easily a prospective location can accommodate the additional electric load from charging.

IMPLEMENTING A CHARGER AND VEHICLE-DATA INTEGRATION INITIATIVE

With growing EV adoption, measuring the real-time, accurate dispensation of electricity to vehicles from charging stations is ever-more essential. City Light needs integrated measurement data to efficiently manage the grid, predict charging needs, ensure accurate billing, and plan for future infrastructure investments. This work also enhances customer trust and ensures we remain compliant with state, federal, and City environmental directives.

ENGAGING WITH INDUSTRY LEADERS TO PREPARE THE GRID

City Light will continue to engage with other utilities and research entities to ensure we stay ahead of the EV adoption curve. This includes partnerships such as the Electrification Research Power Institute's EVs2Scale 2030 — a three-year, public and private partnership that addresses the challenges of electrification at scale. This initiative will focus on anticipating load growth and develop processes and interactive tools to help standardize service connections.



EPRI's eRoadMAP allows users to explore how quickly electric vehicles are expected in different regions, and identifies the power and energy needs at roughly the individual feeder level where critical utility planning occurs. This image shows the tool's forecasted energy needs for City Light's service area based on anticipated transportation electrification levels in 2030.

Funding Resources

To deliver transportation electrification programs, products, and services that meet the requirements, needs, and goals described in this strategy, City Light will need sufficient financial resources to invest in the largest transformation of the transportation sector in recent history. We will prioritize external funding opportunities to deliver transportation electrification programs, policies, and services while keeping cost impacts to customers as minimal as possible.

City Light community partner, Kambo, providing public comment at a Seattle City Council committee meeting.

This work includes pursuing federal and state grant funding to enhance and scale utility and partner transportation electrification programs. In addition, Washington's Clean Fuel Standard (CFS) program will provide important resources to support the transition. CFS requires fuels used for transportation to reduce their carbon intensity from 2017 baseline levels by 20% in 2038.[19] Electricity — used as a transportation fuel for the operation of EVs — has one of the lowest assigned carbon intensities within the program.[20] This means that City Light's role is primarily as a credit-generating entity within CFS's regulatory framework. The financial revenue generated from program credits must be spent on efforts that accelerate transportation decarbonization across the state, with an emphasis on overburdened communities.

PRIORITIES

CONTINUING TO SEEK FEDERAL FUNDING

City Light will pursue grants that supplement funding for programs and projects identified in this strategy. These grants will help keep overall program costs and impacts to ratepayers down, expand the scope and impact of the program or project, and/or allow for the prioritization of the other transportation electrification programs.

SECURING STATE GRANTS

Similar to federal grants, City Light will pursue state funds to scale planned programs, reduce costs and save customer money, and pursue projects that otherwise lack sufficient resources.

COORDINATING AND PREPARING INTERNALLY AND EXTERNALLY FOR CFS CREDIT REVENUE

City Light will lead coordination and implementation of CFS across the City of Seattle. In addition to serving as a supportive partner to other departments participating in CFS, we will focus on internal resourcing and coordination to ensure compliance with the program. In addition, we will ensure that

[19] *RCW 70A.535.025: https://app.leg.wa.gov/RCW/default.aspx?cite=70A.535.025*

[20] *WAC 173-424-900: https://app.leg.wa.gov/WAC/default.aspx?cite=173-424-900.*

revenue from the program supports equitable transportation electrification access priorities for our communities, including revenue-funded projects that are co-developed with community partners.

INCREASING COMMUNITY AWARENESS OF AVAILABLE FEDERAL AND STATE RESOURCES
City Light will continue to build and maintain information and awareness efforts that connect customers to relevant grants that support their decarbonization goals and accelerate the broader adoption of EVs. We may also include increasing capacity to respond to customer questions, concerns, and needs for assistance in navigating funding opportunities like tax credits.

Policy Coordination

Law and policy greatly influence transportation electrification efforts by creating the need for regulatory frameworks that promote clean energy adoption, energy end-use decarbonization, and infrastructure development. Advocating for effective policies and regulations is essential to ensure electrification efforts are equitable in making clean mobility solutions accessible and affordable for all communities.

Rules about infrastructure accessibility and interoperability, climate program operations and results, and funding programs are being developed and will continue for the coming years as markets, technology, and users change. Collaboration among utilities, regulators, and stakeholders is crucial to creating a resilient energy ecosystem, encouraging innovation and investment in cleaner transportation options, and ultimately fostering environmental sustainability and economic benefits.

Engaging industry experts at Green Transportation Summit and Expo.

PRIORITIES

ENGAGING LEGISLATORS AND REGULATORS TO PROMOTE GOOD GOVERNANCE AND RAISE VISIBILITY OF COMMUNITY NEEDS

City Light will continue to develop and promote principles for legislation and rulemaking that intersect with electric transportation adoption, maximizing the value and options for our customers and communities we serve.

PLANNING TO LEVERAGE FUTURE SEATTLE TRANSPORTATION LEVY FUNDS IN PARTNERSHIP WITH SEATTLE DEPARTMENT OF TRANSPORTATION (SDOT) AND OTHERS

City Light works with SDOT across multiple transportation electrification programs, including public charging, permitting, and supportive policies. We will continue to invest and strengthen our deep partnership with SDOT to enhance local transportation systems, including planning for implementation of joint efforts under levy EV-charging funds, which were approved in the 2024 general election.

DEVELOPING AND DELIVERING SOLUTIONS WITH FRANCHISE CITIES

City Light's service area extends beyond the boundaries of the City of Seattle. Our franchise city customers are experiencing significant population, business, and related economic activity that aligns well with policies that promote transportation electrification investments. We will strengthen and expand our advocacy for and partnerships with franchise city leaders and communities to explore transportation electrification solutions.

Workforce Development

The ongoing, widespread electric transformation of transportation systems has enormous implications for the local economy within City Light's service area. As electrification increases, skilled workers are needed to install, maintain, and upgrade charging infrastructure while growing and maintaining the electric grid. New goods and services, and new careers that support them, are a nascent but growing area of educational and economic opportunity.

We have heard from overburdened communities that increasing community self-determination is a priority outcome for transportation electrification investment. We will create thoughtful, targeted workforce- and business-development opportunities to meet community needs and priorities in this area and increase local workforce capacity to plan, build, and maintain infrastructure that matches the pace of growing transportation electrification adoption.

We offer professional pre-apprenticeship and apprenticeship opportunities to enter skilled trades careers as electricians, line workers, and cable splicers. We are also beginning to support career pathways by providing 17 women- and minority-owned firms with the tools, training, and mentorship to obtain Electric Vehicle Infrastructure Training Program Certification.

PRIORITIES

HELPING BUILD CAREER PATHWAYS TO JOBS WITH FAMILY-SUPPORTING WAGES

City Light supports the City's workforce development efforts, namely Priority Hire, and is coordinating with apprenticeship programs to strengthen pathways to energy industry jobs. As part of our commitment to fair labor practices and to ensure competitive compensation for workers involved in public projects, we will adhere to prevailing wage requirements for all contracts. This means that we will ensure workers are paid wages that align with the prevailing rates set by the state.

INVESTING IN PROGRAMS AND INITIATIVES THAT CREATE LOCAL BUSINESS OPPORTUNITY

City Light will respond to the community 's priority to make it easier for local businesses and community organizations to benefit from the electric transportation transition. This includes opportunities in building new infrastructure and maintaining EVs and related services. This support may include targeting the intersection of business opportunity, local entrepreneurship, and equitable wealth building programs.

COMMUNITY AND STAKEHOLDERS

As an electric transportation fuel provider and key partner supporting the transformation of transportation systems, City Light can directly promote fair and equitable transportation outcomes for the communities that need them most.

Through ongoing engagement and partnership at the community level, we have learned about community priorities and needs that intersect directly with electric transportation solutions. Expanding our outreach, communication, and partnership efforts is a top priority for community stakeholders. As such, we are making this work a priority element of the Transportation Electrification Strategy Investment Plan. This approach will support the City of Seattle's One Seattle initiative and, in partnership with the Department of Neighborhoods, we aim to bring more voices to the table.

To achieve these goals, we will expand existing outreach and engagement and develop new efforts that enable customers to better shape and access City Light services that reflect their needs and priorities. By investing in communication and community engagement, we can strengthen how customers shape and benefit from our services.

Community Partnerships

To best serve overburdened communities in our service area and achieve our goals for utility- and climate-related outcomes, City Light must fully understand community members' lived experiences — their needs, desires, and histories — and how utility services can provide relevant, meaningful, and effective public benefit. To do this, City Light must build relationships at the community level.

Relationships can range from informing customers of City Light actions or program opportunities to empowering communities to be stewards and architects of utility funds, operations, and service delivery. Ultimately, we must ensure that communities can meaningfully participate in shaping the solutions that address their needs and priorities — serving as partners and leaders in addressing challenges and thriving on their own terms. For those who have historically been underserved and stand to benefit greatly from investments in energy or transportation services, we need robust and comprehensive partnerships.

STRENGTHENING COMMUNITY PARTNERSHIPS

City Light will continue to build and expand on our existing relationships with community-based organizations (CBOs) and with individual community leaders. This strategy involves securing dedicated funding for CBO contracts, empowering them to create their own agreements, encouraging subcontracting to broaden impact, integrating CBO collaboration in transportation electrification activities, and sharing successes and lessons learned within City Light and with other City departments.

City Light staff engaging with community members at Infrastructure Week hosted by Utility[2].

REMAINING ACCOUNTABLE TO COMMUNITY

City Light is committed to engaging communities regularly to respond directly to community priorities and demonstrate progress on shared goals through co-developed success metrics.

EXPANDING COMMUNITY RELATIONSHIPS THROUGH ADMINISTRATIVE SUPPORT

We have heard that communities new to working with City Light (or with government more broadly) need much more support and guidance at the beginning to create a clearer, less complicated, and less laborious path from initial conversation to actual work. The electrification, internal contracting, and accounting teams will continue to work on a set of tools that bridge the gap between City Light staff and new community partners. We will pilot these tools with a few CBOs before making them more broadly available for all interested organizations.

INTEGRATING EQUITABLE COMMUNITY PARTNERSHIPS

City Light will collaborate across the utility and the City of Seattle to focus on the intersection of climate change, customer needs, equity, and justice. This work may include creating a shared, co-owned understanding of how community partnerships are integrated and operationalized across bodies of work, including processes that enable community consultation on business operations and program development.

PLANNING COMMUNICATIONS AND OUTREACH IN COORDINATION WITH COMMUNITY PARTNERS

Expanding community outreach and engagement efforts — with an emphasis on specific neighborhoods, demographics, community events, and trusted community partners or organizations — is an important enabler of co-development. City Light may use strategies such as:

- Building new interactive materials, event booth features, and demonstrations that enable communities to better engage with and understand the various transportation electrification technologies, programs, utility offerings, and electric grid operations.
- Creating cohort models to better engage and resource selected community members to cultivate more dynamic and resourced relationships who in turn can be clean energy and transportation ambassadors in their respective communities.
- Researching, ideating, and developing with community co-creation models for City Light to evaluate and incorporate into planned customer program lifecycles.
- Prioritizing funding for CBO partners to increase event staffing as part of partnership work.

Outreach and Engagement

Increased outreach communication, education, and engagement from City Light is a top priority shared by community stakeholders. Our communities have emphasized that sustained, tailored communications that help build relationships, are culturally appropriate and available in multiple languages, and address specific community questions and needs are priorities for future investment.

Transportation electrification exhibit at the Seattle International Auto Show hosted by the Washington State Auto Dealers Association.

As customers continue to become aware of and engaged with our transportation electrification offerings, an increase in external communication efforts is needed — on both transportation electrification and core, foundational aspects of City Light's offerings and services.[21] Often, customers are unaware of City Light's status as a publicly-owned utility, our low-carbon energy generation, and our work to increase climate resiliency, or they perceive underinvestment in minority-owned businesses.

PRIORITIES

INCREASING COMMUNICATIONS EFFORTS

City Light will continue to invest and maintain a comprehensive and robust communications platform, strategy, and implementation to focus on reaching our overburdened communities. These activities may include:

- Dedicating more utility resources to transportation electrification communications plans and actions, including support for external communications partners, community messengers and ambassadors, and the Department of Neighborhoods.
- Creating pathways for community feedback and ideas on City Light communications to be assessed, acted upon, and evaluated in an expedient manner.
- Preparing for a more robust, targeted, and dynamic education and outreach campaign for City Light transportation electrification program activities as they scale in the near-term and tracking and following up on community requests.
- Coordinating with other City and regional communication and outreach efforts.
- Intensively communicate, market, and educate customers and communities on City Light and electric utility foundational topics, such as our resource mix, climate mitigation and adaptation, customer programming, investments in grid infrastructure, and sharing case studies post-investment.

[21] *Alliance for Transportation Electrification: https://www.atlasevhub.com/resource/the-missing-piece-on-meeting-transportation-electrification-goals-utility-education-and-outreach-programs*

[22] *Seattle Department of Neighborhoods: https://www.seattle.gov/neighborhoods/about-us*

PARTNERING WITH DEPARTMENT OF NEIGHBORHOODS TO SUPPORT ONE SEATTLE

City Light is committed to building and strengthening this foundational relationship. The Department of Neighborhoods strengthens Seattle by actively engaging all communities.[22] This partnership is critical to ensure that we can build authentic relationships with Seattle communities and make connections with communities that historically have little trust in government.

INVESTING IN MORE IN-PERSON ENGAGEMENTS

In-person events are among the most effective ways to engage with our customers, community members, and businesses. These events play a crucial role in addressing barriers to charger installations, promoting available incentives, dispelling misinformation, and connecting communities to workforce opportunities. Through interactive displays and direct engagement, we demonstrate our commitment to our communities. We will increase staffing and funding to facilitate transportation electrification events and participation in existing community events. These activities may include:

- Deepening event coordination within the utility by leveraging programs, funding, and staff to participate in events to optimize resources and increase the awareness of broader utility topics to event attendees.
- Creating a community and event strategy with clear goals and outcomes. This includes investing in new booth design, construction, interactive elements, educational materials, and logistics to reflect strategic priorities.
- Exploring contracts for third-party event support, particularly staffing and design.
- Expanding market-based and trade group events.

City Light EV fast chargers at Town and Country Market in Shoreline, WA.

Seattle City Light

seattle.gov/city-light